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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,773	01/24/2002	Gregory J. Hofmann	VTN-575	4981

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PHILIP S. JOHNSON
JOHNSON & JOHNSON
ONE JOHNSON & JOHNSON PLAZA
NEW BRUNSWICK, NJ 08933-7003

EXAMINER

HECKENBERG JR, DONALD H

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 01/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/056,773

Applicant(s)

HOFMANN ET AL.

ed

Examiner

Donald Heckenberg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on October 29, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, and 11-24 is/are rejected.
- 7) ☒ Claim(s) 5, 7-10, 25 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) --
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. Applicants' election of Species I (mold made of a shape memory polymer) and Subspecies VIII (the shape memory polymer being a copolymer of styrene and a vinyl compound) is acknowledged. Because Applicants did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. The specification at p. 7, l. 5 incorporates by reference a related co-pending application, cited as attorney docket number "VTN-576". It appears as though this is indicating U.S. App. Ser. No. 10/056,590. The reference in the specification should contain the U.S. serial number instead of merely an attorney docket number. Appropriate correction is required.
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
4. Claims 1, 6, and 11-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Pub. No. 02-018005 (hereinafter

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"JP '005"). Reference below will be made to the English abstract attached to JP '005, which is fully supported by the reference.

JP '005 discloses a mold comprising a shape memory polymer (see abstract). The mold comprises a first (2) and second mold member (5).

It is noted that claim 1 of the instant application recites in the preamble the apparatus as an "ophthalmic mold." A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See In re Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). In the instant case the body of the claim requires the some of the preamble for completeness because the disclosure of the instant application indicates that Applicants' do not regard shape memory polymers as their invention per se (see for example specification p. 2, l. 25 noting that "Shape memory polymers were developed about 20 years ago"). Rather, based on the disclosure, Applicants' invention has been interpreted as being using a shape memory material for the construction of a mold. Therefore, the

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limitation of the apparatus being a mold from the preamble has been given patentable weight.

However, in saying that the claimed structure is an "ophthalmic" mold recites merely an intended use of the mold, that is, to make ophthalmic products such as contact lenses. Further, calling the mold a "ophthalmic" does not define any additional structure of the mold. Since the "ophthalmic" language occurs in the preamble, does not further define any apparatus structure, and the body of the claim does require "ophthalmic" for completeness, the ophthalmic limitation of claim 1 has not been given patentable weight.

Claims 11-24 recite many limitations directed to the process by which the claimed mold is made. For example, claim 14 recites that the mold members are prepared using an agile tool to shape the mold member. The determination of a claimed apparatus-product is determined by the apparatus structure itself, not the method of its production. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985); In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972); In re Pilkington, 411 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969); MPEP § 2113; see also In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292-93 (Fed. Cir. 1983) (Holding once the examiner provides a rationale tending to show the claimed product appears to be the same or

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similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and a prior art product). In the instant case, as JP '005 discloses all of the apparatus structural limitation of claims 11-24 as described above, the reference anticipates the claimed mold, regardless of its method of production.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '005 in view of Stein et al. (U.S. Pat. No. 4,831,094).

JP '005 discloses the apparatus as described above, including the use of shape memory polymers for construction of a mold. JP '005 further specifies that the shape memory polymer be a thermosetting resin preferably have a transition temperature between 50-200°C (abstract). However, JP '005 does not disclose the shape memory polymer be selected from the group consisting

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of norborene homopolymers, copolymers of norborene and alkylated imides, copolymers of norborene and cyanomides, copolymers of norborene and alkoxyated imides, copolymers of norborene and mono-or diesterified imides, copolymers of norborene and a carboxylic acid derivative, or a copolymer of norborene and dimethane octahydronaphthalate.

Stein discloses that shape memory polymers made from the group consisting of norborene homopolymers, copolymers of norborene and alkylated imides, copolymers of norborene and cyanomides, copolymers of norborene and alkoxyated imides, copolymers of norborene and mono-or diesterified imides, copolymers of norborene and a carboxylic acid derivative, or a copolymer of norborene and dimethane octahydronaphthalate are all known (col. 2, ll. 8-25). Stein further discloses that these shape memory polymers can all be made as such to have a can be made to have transition temperature between -90 to 200°C.

It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to have modified the apparatus of JP '005 as such to have used a shape memory polymer selected from the group consisting of norborene homopolymers, copolymers of norborene and alkylated imides, copolymers of norborene and cyanomides, copolymers of norborene and alkoxyated imides, copolymers of norborene and mono-or

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diesterified imides, copolymers of norborene and a carboxylic acid derivative, or a copolymer of norborene and dimethane octahydronaphthalate because such shape memory polymers are known and can have transition temperatures between 50-200°C as suggested by Stein.

As noted above in the claims of the instant application the method by which the mold-product is made is not germane to the issue of patentability of the mold. Thus, JP '005 in disclosing the shape memory polymer be a thermosetting resin meets all of the apparatus structural limitations of claim 4, regardless if the method of curing the resin uses radiation or some other heat source.

9. Claims 5, 7-10, and 25-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In order for these claims to be allowable, the non-elected species II (the mold being made from a shape memory alloy) limitation would have to be cancelled as well.

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10. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or suggest a mold comprising a shape memory polymer, the shape memory polymer being a copolymer of styrene and a vinyl compound as recited in claim 5. The closest prior art disclosed by the combination of JP '005 and Stein is described above. While Stein discloses several different copolymers with shape memory properties, there is no teaching or suggesting of a copolymer made from styrene and a vinyl compound. Nor is there any suggestion in JP '005 or Stein to modify the mold of Stein to construct the mold from such a polymer.

The prior art of record also fails to teach or suggest a mold comprising a shape memory polymer, wherein the mold comprises a first member in the form of a front curve element, and a second member in the form of a base curve element as recited in claim 7. The closest prior art disclosed by JP '005 is described above. JP '005 fails to teach the mold members to be in the form of front curve and base curve elements, nor is there any suggestion in the reference for modifying the mold in such a manner.

The prior art of record also fails to teach or suggest a mold comprising a shape memory polymer and intrinsic actuators.

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Intrinsic actuators have been interpreted as explicitly defined in the specification of instant application, specifically, to be discrete areas of the mold comprising shape memory polymer that are activated by individually applied heat as such to make precise changes to the surface of the mold (specification p. 24, 11. 5-8). The closest prior art disclosed by JP '005 is described above. JP '005 fails to teach the use of intrinsic actuators as the term is defined in the instant application.

11. The following reference cited but not relied upon is deemed pertinent to the instant application:

Japanese Pub. No. 02-108433 discloses a mold made from a shape memory polymer (see abstract).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Heckenberg whose telephone number is (571) 272-1131. The examiner can normally be reached on Monday through Friday from 9:30 A.M. to 6:00 P.M.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at (571) 272-1151. The official fax phone number for

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the organization where this application or proceeding is
assigned is (703) 872-9306.



Donald Heckenberg
January 9, 2004